

REMARKS

By this amendment, applicant has amended the specification to insert appropriate headings therein and to delete reference therein to the claims. Applicant has also corrected a clerical error on page 4 of the specification. Applicant has amended claim 1 to include therein the limitation previously recited in dependent claim 4 and has amended all of the claims to delete the reference numerals therefrom and to eliminate the phrases deemed indefinite by the Examiner. Claim 4 has been canceled without prejudice or disclaimer.

In view of the foregoing amendments to the claims, it is submitted all of the claims now in the application comply with the requirements of 35 USC 112, second paragraph. Therefore, reconsideration and withdrawal of the rejection of claims 12 and 16 - 22 under 35 USC 112, second paragraph, are requested.

Claims 1 - 3, 13 - 16 and 23 stand rejected under 35 USC 102(b) as allegedly being anticipated by Davidson. In view of the foregoing amendment adding the limitation of claim 4 to independent claim 1, it is submitted this rejection is moot. In any event, it is submitted the Davidson patent does not disclose and would not have suggested the presently claimed invention for the reasons set forth hereinafter.

Claims 4 - 12 and 17 - 22 stand rejected under 35 USC 103(a) as allegedly being unpatentable over Davidson. Applicant traverses this rejection and requests reconsideration thereof.

The present invention relates to a grinding machine for grinding grinding material by means of grinding bodies. The grinding machine includes a stationary container (2) for receiving grinding material and a rotary disk (3) placed above the container base (2a) for forming a finite gap (5a) with respect to the container wall

(2b). In grinding machines of the prior art, a danger exists that the upper and lower parts, particularly the lower part, will be very strongly heated as a result of friction if parts of the grinding material and/or additional added grinding bodies pass during operation into the gap between the container base and the rotating disk. This, on one hand, leads not only to a relatively short grinding machine service life, but, on the other hand, the machine must be frequently switched off during the working of the grinding material to avoid overheating of both the grinding machine and also the grinding and/or polishing material. See, e.g., the fourth paragraph on page 1 of applicant's specification.

According to the present invention, a finite gap is provided between the rotary disk and the container wall, and the rotary disk has a resilient material at least on its underside. According to this construction, if a grinding body or material particle penetrates the gap between the rotary disk and the container wall, the grinding body or material particle is conveyed outwards solely through the rotary movement between the disk and the container base. No wear occurs as a result of the resilience of the disk, or at least its underside, so that the mounting of the disk is not impaired. See, e.g., the third full paragraph on page 2 of applicant's specification.

The patent to Davidson discloses a centrifugal disk finishing apparatus including a finishing chamber or tub 10 formed by an upstanding wall 11 and a concentric rotatable rotor and disk 12 which are supported on a tiltable base 13 which, in turn, is mounted tilting about a horizontal axis on a frame 14 by aligned horizontal shafts 15 extending into flange bearings 16. As admitted by the Examiner, the Davidson patent does not disclose a rotary disk having a resilient material at least on its underside. To the contrary, the Davidson patent discloses the following at column

Not admitted
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3, lines 3 - 6:

The disk must be comprised of a stock thickness and/or reinforced through various configurations to prevent any distortion or flexibility, especially at the outer periphery, to prevent deflection during operation.

Thus, the Davidson patent clearly teaches away from using a rotary disk having a flexible material at least on its underside.

The Examiner alleges that, *inter alia*, the specific material of the disk or material of the disk covering "would have been obvious to one having ordinary skill in the art at the time the invention was made, since it is within the general skill of the worker in the art to select material and size on the basis of their suitability for the user's preference as an obvious matter of design choice." In the first place, this allegation is traversed since the selection of a resilient material, at least for the underside of the disk is contrary to the explicit teachings of Davidson. See, column 3, lines 3 - 6 of Davidson. Moreover, deficiencies of cited references can not be remedied by general conclusions by what is basic knowledge or common sense in the art. When an Examiner relies on what is asserted to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. The Patent and Trademark Office can not rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rational on which it relies. In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002). Thus, in order to demonstrate that it would have been obvious to modify the teachings of Davidson, the Examiner must articulate and place on record the knowledge available to one of ordinary skill in the art that would have motivated the modification of the Davidson teachings. It is submitted no such knowledge is of record in the subject application file.

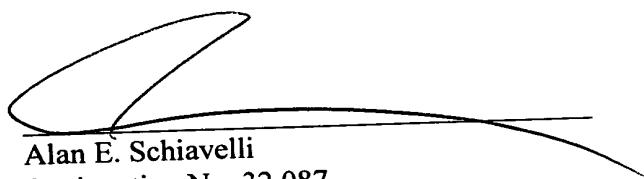
Since the Examiner has not demonstrated why one of ordinary skill in the art would have modified the teachings of Davidson and since the Davidson patent teaches away from the present invention, it is submitted the presently claimed invention is patentable over the presently claimed invention.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 321.39341X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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IN THE SPECIFICATION:

Page 1, amend the paragraph beginning on line 35 to read as follows.

The disk is also spaced from the container base. An extremely preferred construction results from the ~~characterizing part of claim 12~~ size of the gap being smaller than the spacing of the disk from the container base, which ensures that particles can pass beneath the disk which are much smaller than the distance between the disk and the base.

Page 4, amend the paragraph beginning on line 30 to read as follows.

However, for both wet and dry working, the disk can also be of flexible material, e.g. rubber. The disk is driven by a shaft 3a. The shaft 3b 3a traverses in preferably liquid-tight manner a container base 2a and is mounted in rotary manner thereon by means of bearings 4. Accompanied by the formation of a gap 5, the disk 3 is spaced from the container base 2a and in the case of dry working the gap width b is e.g. approximately 3 mm. The disk 3 and/or container 2 can be positioned in vertically adjustable manner, e.g. accompanied by a variation of the gap width b.

IN THE CLAIMS:

1. (Amended) Grinding machine for grinding grinding material by means of grinding bodies, ~~with at least one grinding unit (1) having two parts rotatable relative to one another, characterized by comprising~~ a stationary container (2) for receiving grinding material and a rotary disk (3) placed above a container base (2a) for forming a finite gap (5) with respect to the container wall, the rotary disk being rotatable relative to the container, the rotary disk having a resilient material at least on its underside.

2. (Amended) Grinding machine according to claim 1, characterized in that a driving shaft of the grinding disk (3) passes in liquid-tight manner through the base of the container (2).

3. (Amended) Grinding machine according to claim 1, characterized in that an upper side of the disk is rigid.

5. (Amended) Grinding machine according to claim 1, characterized in that the disk (3) is made from resilient, particularly flexible material.

10. (Amended) Grinding machine according to claim 1, characterized in that the width (b) of the gap (5) is at least 1/10 mm.

12. (Amended) Grinding machine according to claim 1, characterized in that the size (a) of the finite gap (5) between the rotary disk and the container wall is smaller than the spacing (b) of the disk (3) from the container base (2a).

13. (Amended) Grinding machine according to claim 1, characterized in that the disk (3) has a raised circumferential edge (3a).

14. (Amended) Grinding machine according to claim 1, characterized by a one-piece casing (2).

15. (Amended) Device according to claim 1, characterized in that a casing (2) and/or the container (2) is made from plastic.

16. (Amended) Device according to claim 1, characterized in that a drive motor for the rotary disk (3) is placed beneath the latter rotary disk.

17. (Amended) Device according to claim + 16, characterized in that a drive (11) for the disk (3) has a gear (12) between the drive motor (13) and disk (3).

18. (Amended) Device according to claim 17, characterized in that the gear (12) is positioned below the disk (3).

19. (Amended) Device according to claim 17, characterized in that the drive (11) is constructed as a geared motor (14) with integrated gear (12).
20. (Amended) Device according to claim 17, characterized in that the drive motor (13) is positioned below the container (2) in a foot (2c) of the casing (2').
21. (Amended) Device according to claim 17, characterized in that the drive motor (13) is positioned laterally of the container (2).
22. (Amended) Device according to claim 21, characterized in that the top of the motor (13) is substantially at the same level as the top of the container (2).
23. (Amended) Device according to claim 1, characterized in that a sealable outlet (15) is provided below the disk (3) in the base (2a) of the container (2).